

ABSTRACT

A low cost process for self-forming a uniformly adherent protective rare earth silicate coating on a silicon-based ceramic component for protecting the component against corrosive/erosive environments. The coating is self-formed by an oxidation process of a silicon-based ceramic associated with a reaction between a silica (SiO_2) film layer on the surface of silicon-based ceramic and the rare earth oxide existing inside of silicon-based ceramic component.

2025 RELEASE UNDER E.O. 14176